SUMMARY MINUTES
Scientific and Statistical Committee

Pacific Fishery Management Council
Hilton Hotel – San Diego Del Mar
Steeple Chase I Room
15575 Jimmy Durante Blvd.
Del Mar, CA 92014
(858) 792-5200
November 3 - 4, 2003

Call to Order

The meeting was called to order at 8 a.m. Dr. Donald McIsaac briefed the Scientific and Statistical Committee (SSC) on priority agenda items.

Members in Attendance

Mr. Alan Byrne, Idaho Department of Fish and Game, Nampa, ID
Mr. Robert Conrad, Northwest Indian Fisheries Commission, Olympia, WA
Dr. Ramon Conser, National Marine Fisheries Service, La Jolla, CA
Dr. Michael Dalton, California State University, Monterey Bay, CA
Dr. Martin Dorn, National Marine Fisheries Service, Seattle, WA
Dr. Kevin Hill, California Department of Fish and Game, La Jolla, CA
Dr. Robert Francis, University of Washington, Seattle, WA
Dr. Han-Lin Lai, National Marine Fisheries Service, Seattle, WA
Mr. Tom Jagielo, Washington Department of Fish and Wildlife, Olympia, WA
Dr. Peter Lawson, National Marine Fisheries Service, Newport, OR
Dr. Stephen Ralston, National Marine Fisheries Service, Santa Cruz, CA
Dr. André Punt, University of Washington, Seattle, WA

Members Absent

Ms. Cynthia Thomson, National Marine Fisheries Service, Santa Cruz, CA
Dr. Shijie Zhou, Oregon Department of Fish and Wildlife, Portland, OR

Scientific and Statistical Committee Comments to the Council

The following is a compilation of SSC reports to the Council.

B. Marine Protected Areas

B.2. Update on West Coast Marine Protected Areas Issues

The SSC was updated on four ongoing Marine Protected Area (MPA) activities as follows:

SSC Marine Reserves Subcommittee White Paper – The delivery of the white paper has been delayed until the March 2004 Council meeting. One reason for this delay is that examples of National Environmental Protection Act (NEPA) documentation are being added to the paper.

Channel Islands National Marine Sanctuary (CINMS) Marine Reserves Process – The SSC understands the Council will be updated on this process Tuesday, November 4, 2003. The SSC did not receive an update, and, thus, has no comment at this time.

National Fisheries Conservation Center (NFCC) Marine Reserves Science Conference – The SSC was informed that conference planning is currently underway and the workshop is tentatively scheduled for early 2004.

National Marine Fisheries Service (NMFS)/National Oceanic and Atmospheric Administration (NOAA) MPA Science Center Integration Project – As reported to the Council in September 2003, this longer term coordination project is being organized by NMFS (Santa Cruz Lab), NOAA National MPA Center, and the National Center for Ecological Analysis and Synthesis (Santa Barbara, CA). The NFCC conference and NOAA integration project are being coordinated.

The SSC encourages close coordination between the Council and the NFCC and NOAA projects. In this regard, at the direction of the Council, the SSC is willing to participate in the NFCC workshop and the longer term NMFS/MPA Center integration project.

Finally, as the SSC noted in September 2003, MPAs are becoming a major workload item for Council staff. As such, the SSC reemphasizes our September statement that this will likely require reallocation of staff priorities and increased Council and advisory body meeting time to address MPA issues.

D. Groundfish Management

D.4. Observer Data Flow for Fishery Years 2004-2006

Dr. Jim Hastie presented a report describing the proposed flow of observer data in fishery years 2004-2006 (Exhibit D.4.b, NMFS Report). Observer data are used both to develop management measures for Council deliberation and for inseason management. Although not covered in the report, observer-based discard estimates will also be important inputs to upcoming stock assessments. Under the proposed schedule, release of observer data will occur once a year. Data from the second year of the program, from September 2002 to August 2003, are currently being processed and will be made available in January 2004. Future releases of observer data will follow approximately the same annual schedule.

Under this schedule, observer data ending in August 2003 will be used to formulate management options for 2005-2006. Accordingly, there will be a lag of at least a year and a half between when the data are collected and when the management measures based on those data are implemented. While this lack of timeliness of observer data is of concern, the schedule adopted by the Council for multi-year management makes such lags unavoidable.

A clear distinction should be made between the use of observer data and the bycatch model to

develop management measures for Council consideration and their use for inseason management. Inseason fisheries management is by its nature an adaptive process. Revision of management measures may be required when available data indicate that acceptable biological catches (ABCs) for target and bycatch species are likely to be exceeded by end of the year under existing measures. For inseason management in 2004, two options exist. The first is to reconcile model predictions with inseason landings data only. The second option is to use both inseason landings data and the second year of observer data that will be available in January 2004. The second option uses best available data, is likely to be more successful in preventing ABCs from being exceeded, but could result in more substantial revision of management measures during the year.

There are several other issues concerning the use of observer data that have not been resolved. The availability of several years of observer data raises the question of how much weight should be given to the more recent data, in comparison to the older data. A weighting scheme that gives less emphasis to older data, while likely to be somewhat ad hoc, may be warranted, due to the many recent changes in how West Coast groundfish are managed.

Another unresolved issue is how observer data will be used in future stock assessments. Stock assessments require estimates of total removals, which include both retained and discarded fish. Although observer data is appropriate to estimate current discard rates, estimation of historical discard rates will require use of other data sources. Rather than expecting each stock assessment author to develop their own method of combining data sources to estimate discard rates, consideration should be given to developing an approach that can be applied uniformly across species and makes best use of current and historical data sets. This could be accomplished in a number of ways, either by a workshop process, or by preparation of a report with summary tables of historical and current discard estimates. Fuller discussion of off-year workshops is found under SSC comments on Agenda Item D.9.

D.6. Cabezon and Lingcod Stock Assessments

Cabezon

The SSC reviewed the cabezon stock assessment document (Exhibit D.6, Attachment 1, November 2003) and the cabezon STAR Panel report (Exhibit D.6, Attachment 2, November 2003). First, it was noted that the panel report recommended incorporating "model" uncertainty into the stock projections by combining results from nine models that systematically varied the natural mortality rate (M = 0.20, 0.25, and 0.30) and stock productivity (h = 0.7, 0.8, and 0.9) parameters. The SSC endorses the cabezon stock projections that are based on the "Posterior distribution (nine analyses)" in Table 12 (page 53) of the stock assessment as a sensible attempt to integrate model uncertainty into the analysis. However, the committee notes that the calculation is an ad hoc solution to the problem, and a full Bayesian analysis would be much preferred.

It was further noted that the time series of California commercial passenger fishing vessel (CPFV) logbook data in the cabezon stock assessment model begins in 1960, which is the earliest year of data that was provided to the Stock Assessment Team (STAT) Team as they prepared for the assessment. However, the CPFV logbook data set actually begins at least as early as 1947, and an analysis of CPFV logbook records that was conducted by the SSC at the

meeting shows that the highest recorded catch of cabezon in the CPFV fishery occurred prior to 1960 and that CPFV catch rates of cabezon were also highest prior to that date (see attached figure). The SSC was concerned that these data could have a considerable influence on the estimate of stock depletion and, as a consequence, recommends that the CPFV logbook data be re-assembled, evaluated, and, if appropriate, included in the assessment model. In particular, the total recreational catch of cabezon may have been trending down during the 1945-1960 period, rather than being a constant 25 mt per year as modeled in the assessment.

Two members of the cabezon STAT Team were present during the SSC's discussion, and they indicated a willingness to revise the analysis and submit their findings to the SSC Groundfish Subcommittee for review prior to the March Council meeting. In the interim, because of the increased uncertainty about the estimate of depletion from the cabezon model, the SSC recommends the Council adopt a preliminary optimum yield (OY) that would keep the spawning biomass stable over the medium term. Results presented in the right hand column of Table 12 (page 53) of the assessment document, under the heading $F_{50\%}$, show that median harvest levels for the next seven years (2004-2010) range from 80 mt to 85 mt. Because this "control rule" is a constant harvest rate option, with no precautionary adjustment, over that time frame cabezon stock size should not decline any further if harvested at this level.

Lingcod

The SSC also reviewed the lingcod stock assessment document (Exhibit D.6, Attachment 3, November 2003) and the STAR Panel meeting report (Exhibit D.6, Attachment 3, November 2003). Based on an examination of the parameter files in the assessment document, it became apparent that a key parameter (recruitment variability) was mis-specified. As a consequence, recruitment variability was likely to have been too small in the rebuilding projections. If this parameter is re-specified, this would be expected to affect the OY values presented in the projections (e.g., Table ES2, page 7 of the assessment document).

Moreover, this parameter mis-specification could have influenced the decision of the STAR Panel to adopt a lingcod model that incorporated dome-shaped selectivity patterns, rather than asymptotic selectivity as in the 2000 assessment model. Consequently, the SSC recommends the current model be re-evaluated, specifically with respect to the recruitment variability parameter and the improvement in fit that accompanied the shift to dome-shaped selectivity curves. Likewise, stock rebuilding should be re-calculated using the revised model.

This will not be an inconsequential effort, although the lead assessment author indicated a willingness to evaluate the issues involved. As with cabezon, the SSC Groundfish Subcommittee agreed to review any revised analyses that may come forth prior to the Council's March 2004 meeting.

Lastly, the SSC discussed how to treat the lingcod results with respect to management areas (distinct north and south projections versus a "coastwide" projection). For the previous rebuilding analysis, the two separate lingcod models (LCN and LCS) were each used to project stock rebuilding in their respective areas, and the coastwide OY was simply calculated as the sum of the two components. The SSC continues to endorse the calculation of a coastwide OY as the sum of yield projections from the two area models because separate biological characteristics are maintained and explicitly incorporated into the modeling. Even so, the LCN and LCS

models could be used individually to evaluate different management options for utilizing the combined coastwide OY. This approach might be particularly useful in accounting for different levels of depletion and/or productivity in the northern and southern areas.

D.7. Update on Recreational Fishery Information Network

Mr. Russell Porter briefed the SSC on recent revisions in the data collection system for the West Coast recreational fishery. The system is undergoing significant change with modifications in both design and operational details. In particular, the 23-year-old Marine Recreational Fisheries Statistics Survey (MRFSS) is being phased out in all of the West Coast states. The greatest degree of change is occurring in California where previously, all catch and catch per unit effort (CPUE) estimates were based solely on MRFSS-collected data. Ms. Debbie Aseltine-Nielson provided the SSC with an overview of the new California Recreational Fisheries Survey (CRFS).

While the SSC did not review the new methodology, the general design and implementation strategy appear to be reasonable. At this juncture, the SSC offers two comments:

1. In general, it is desirable to record what has been observed in the field and to maintain these data in well-established databases. For example, the MRFSS practice of observing and recording discards in two categories (dead or alive when released) should be maintained in the new system.

2. Planning for transition from the MRFSS to the new system is critically important for ensuring continuity in the stock assessments that utilize these data (e.g., linking the old and new time series of catch and CPUE estimates. This may be a more time-consuming endeavor than currently envisioned, and adequate resources should be allocated to the task.

D.8. Preseason Management Schedule (November-June) and Process, Acceptable Biological Catch, Preliminary Optimum Yield, and Management Measures for 2005-2006 Fisheries

The Groundfish Management Team (GMT) requested the SSC review whether bycatch rates from the Washington arrowtooth flounder exempted fishing permit (EFP) and Oregon flatfish EFP could be used in the bycatch model for these sectors for 2005/2006 management. The SSC can comment on this during the March 2004 Council meeting if information on bycatch rates and total catches, along with full documentation of the methodology used to estimate bycatch rates, are available for review.

The GMT requested the SSC review the methodologies used by the states to project inseason recreational catch. This methodology is being revised at present and will be completed by the GMT meeting in January 2004. Review of this methodology will, therefore, have to occur during a workshop in 2004. Although the SSC notes the importance of these projections in the management of groundfish species, the SSC is currently considering a number of other groundfish-related workshops (see Exhibit D.9). The ability of the SSC to dedicate its resources to this review will impact its ability to participate in other workshops during 2004 and review of the revised lingcod and cabezon assessments.

The SSC notes the table of preliminary optimum yield (OY) and acceptable biological catches (ABCs) for 2005/2006. The SSC comments on the revised assessments of lingcod and cabezon

and the rebuilding analysis of lingcod provided under Exhibit D.6. The ABCs/OYS for these species will change, possibly to a substantial extent, when the assessments are updated based on the SSC comments.

D.9. Planning of "Off-year" Non-regulatory Science Activities

Dr. Elizabeth Clarke presented a draft proposal (Exhibit D.9.b, Supplemental NMFS Report) for "off-year" (2004) science workshops and other non-regulatory activities to the SSC. In order to motivate activities proposed in 2004, Dr. Clarke's presentation included a description of stock assessments and supporting activities (stock assessment review [STAR] panels, etc.) that would be conducted during 2005 (the "on-year").

Table 1 of the draft proposal lists 27 stock assessments (16 full assessments and 11 expedited). Proposed workshops for 2004 are listed in Table 3, and these are intended to alleviate the workload burden of the full assessment schedule in 2005. The first suggestion for streamlining the 2005 process, which the SSC endorses, is to divide the stock assessments among different work groups based on species type (Dover sole/thornyhead/trawl-caught sablefish complex [DTS], flatfish, rockfish, etc.). The second suggestion is to use data "stewards" for facilitating data acquisition by the stock assessment authors. The SSC highly recommends the use of data stewards in this role.

Dr. Clarke's proposal recommends a data workshop for 2004 to find new ways to improve the efficiency and implementation of different data sources to be used in the 2005 stock assessment process. The SSC considers this data workshop to be a high priority. The SSC also considers the development of standards and methodologies for incorporating new observer-based data to construct catch histories to be an important component of the proposed data workshop.

A second workshop proposed for 2004 is a stock assessment modeling workshop that could include, for example, a review of the new version of the Stock Synthesis Model ("Isabelle") as a standardized analysis tool for the 2005 assessments. The SSC also considers this workshop to be a high priority. While the Recreational Catch Per Unit Effort (CPUE) Workshop was not discussed in detail, the SSC also considers it to be a useful objective. Dr. Clarke indicated that three workshops in 2004 would likely be a maximum for administrative time and effort. Terms of Reference for the workshops will be needed, and the SSC is willing to participate in the drafting of these.

The SSC also discussed the possibility of a B_0/B_{MSY} workshop and also considers this to be worthwhile. Suggestions included coordinating a B_0 workshop with the North Pacific Council, or through the National Marine Fisheries Service (NMFS). Currently, NMFS is involved in an effort to develop environmentally explicit stock assessments, which may have a major impact on the calculation of reference points like B_0. Ecosystem-based management could be another area for coordination with the North Pacific Fishery Management Council.

The main obstacle for completing all the stock assessment objectives for 2005 appears to be scheduling and personnel for the stock assessment and review (STAR) panels that will be required for the full assessments (Table 4). The administrative maximum here is likely to be five full meetings. For logistical reasons, it appears these meetings would need to occur during the spring and fall of 2005. Even under this schedule, the SSC is concerned that all of the objectives

listed in the proposal for 2005 cannot be satisfactorily completed under the current STAR process. The only alternatives appear to be conducting fewer assessments or revising the current STAR process, moving towards lighter reviews or more expedited assessments.

E. Salmon Management

E.4. Salmon Methodology Review

Mr. Jim Packer and Mr. Larrie LaVoy of the Washington Department of Fish and Wildlife (WDFW) presented a progress report to a joint meeting of the SSC Salmon Subcommittee and the Salmon Technical Team (STT) on changes to the Coho Fishery Regulation Assessment Model (FRAM) for the 2004 management season. This meeting was held on October 23, 2003 in Portland.

The Coho FRAM is being changed bilaterally through the Coho Technical Committee of the Pacific Salmon Commission (PSC), so it can be used by the PSC for its coho abundance- based management agreement with Canada. The changes include a re-definition of some Canadian fishery strata, changes to the stocks representing Canadian production regions, and the addition of new coded-wire tag data and escapement estimates for some Canadian stocks. The use of a common model by the PSC and Council will be important for consistency and to keep the model developers' workload reasonable.

At the time of the meeting on October 23 the changes to the model base period data were still being evaluated and error checked. The model development process puts the Council in a difficult position this year. The model base period data will continue to be modified and reviewed by the Coho Technical Committee of the PSC until mid February. Although the PSC has said they will use abundance-based management for coho in 2004, it is not certain they will approve the modified coho FRAM for use. The Council preseason salmon management process requires that a model be in place by mid-February. This leaves no time for the Council to react to the PSC decision. In effect, for 2004 the Council is bound by the actions of the PSC. The SSC and STT can appraise the Council of changes in modeled impacts that affect Council decisions, but the Council has little choice but to accept the model as adopted by the PSC. In future years a mechanism and time schedule for inter-jurisdictional coordination of model changes needs to be established.

A progress report by the Model Evaluation Workgroup (MEW) was also presented at the meeting. A draft document, "Fishery Regulation Assessment Model (FRAM) – An Overview for Chinook and Coho," was submitted for review. This document was designed to provide a non-technical overview of the two FRAMs. The level of detail presented in the draft was sufficient for an overview; however, a technical manual that describes in detail the algorithms and methods used in FRAM and its supporting data analysis programs is needed. The SSC recommends the overview document be finalized as quickly as possible and work on the User's Manual and Programmer's Guide started

H. Coastal Pelagic Species Management

H.2. Pacific Sardine Stock Assessment and Harvest Guideline for 2004

Dr. Ramon Conser presented the results of the Pacific sardine stock assessment and the U.S. harvest guideline (HG) for 2004. The assessment considers Pacific sardine from Baja California to British Columbia, and estimates the biomass of animals aged one and older in this region. The assessment model and data analysis are similar to those used in previous years. The model is designed around indices of abundance for central and southern California and accounts for catches off Oregon, Washington, and Canada by allowing for migration from central and southern California to the northern areas. The analysis included the most recent fishery and survey data. The sardine stock biomass on July 1, 2003 was estimated to be approximately one million mt, and the recommended 2004 HG is 122,747 mt. This HG is higher than the 2003 HG of 110,908 mt because two of three 2003 indices are higher than those for 2002. The SSC endorses the use of this HG of 122,747 mt for the 2004 Pacific sardine fishery.

The catch by the U.S. is not likely to reach the harvest guideline in the short-term. However, if the U.S. catch increases, and Mexico and Canada continue to harvest at current levels, the total mortality on the stock may exceed that expected under the maximum sustainable yield (MSY) control rule.

A new sardine model and assessment are being developed. This revised assessment will consider landings and catch-at-age data as well as the results of fishery-independent surveys for Mexico, California, Oregon, Washington, and Canada. A stock assessment review (STAR) panel to review this model is currently planned for May 2004. However, the Coastal Pelagic Species Management Team (CPSMT) recommends that this STAR panel occur during the week of June 21, 2004. The SSC will participate in the STAR panel through its coastal pelagic species subcommittee according to the Terms of Reference for CPS STAR panels developed during 2003. Further, because the SSC CPS Subcomittee chairmanship is in transition, the SSC requests that the NMFS Southwest Fisheries Science Center provide assistance in providing reviewers and logistical support for this STAR panel meeting.

The SSC notes that a significant source of uncertainty in the Pacific sardine assessment is the sparseness of the data for Mexico and the Pacific northwest. In this regard, it strongly supports the increased collaboration among scientists and industry representatives from Mexico, the U.S., and Canada.

Public Comment

No public comments on topics not on the SSC agenda were provided.

Adjournment

The SSC adjourned at approximately 5 p.m., Tuesday, November 4, 2003.

PFMC
02/24/04

SSC Subcommittee Assignments for 2003

Salmon	Groundfish	CPS	HMS	Economic	Marine Reserves
Alan Byrne	Ray Conser	Michael Dalton	Alan Byrne	**Michael Dalton**	Ray Conser
Robert Conrad	Michael Dalton	Alan Byrne	Robert Conrad	Martin Dorn	Michael Dalton
Kevin Hill	Martin Dorn	Ray Conser	Ray Conser	Han-Lin Lai	Martin Dorn
Pete Lawson	Robert Francis	**Robert Francis**	**Kevin Hill**	Cynthia Thomson	Tom Jagielo
Shijie Zhou	Tom Jagielo	Tom Jagielo	André Punt		Pete Lawson
	Han-Lin Lai	André Punt	Cynthia Thomson		André Punt
	André Punt	Shijie Zhou			Steve Ralston
	Steve Ralston				**Cynthia Thomson**

Bold denotes Subcommittee Chairperson